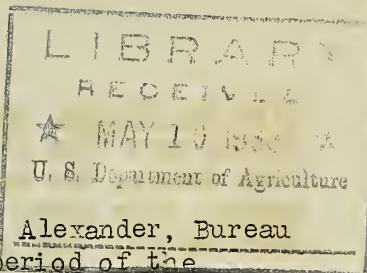


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.9
H755R
HOUSEHOLD CALENDAR

Science Applied to Meat Cookery



An interview between Miss Ruth Van Deman and Miss Lucy M. Alexander, Bureau of Home Economics, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 47 associate NBC stations, Tuesday, February 28, 1933.

MISS VAN DEMAN: How do you do, Everybody:

Last Tuesday, you remember, Miss Loughlin was with me. We talked about cooking vegetables. Today Miss Lucy Alexander is here to help us put science into the cooking of meats. You've met Miss Alexander many times before on these Household Calendar programs. Since she's an old friend I know you want her to do the talking.

Just as a starter, Miss Alexander, what do you think is the first rule in the cooking of meats?

MISS ALEXANDER: Well, Miss Van Deman, to cook meat successfully I believe you need first to know your cuts. There are tender cuts of meat and there are less tender. They just grow that way naturally. In a beef side you find both kinds. There are the tender cuts in the loin and rib. There are the less tender such as chuck, and rump, which have more connective tissue. Lamb and pork as marketed nowadays are so young that all the cuts are tender.

When we cook meat, just as you and Miss Loughlin said last week about vegetables, we want to conserve all the food value possible and give "appetite appeal." With the tender cuts of meat, the best ways to do this are roasting and broiling. For the less tender cuts it means braising, or some other method of long slow cooking in a covered utensil that holds in the steam and softens the connective tissue.

MISS VAN DEMAN: Well, it seems to be a case of knowing the cuts of meat and cooking according to the cut. Of course, we know that meat is a protein food, and that the minute heat is applied to protein certain changes take place. Long cooking at intense heat toughens and hardens protein foods. Moderate heat keeps them tender. That's what makes the difference between a hard-boiled egg and a coddled egg. Now how do you scientific meat cooks apply this principle?

MISS ALEXANDER: Well, we control the heat when we're roasting, or broiling, or however we're cooking meat. And at some time in the process we apply enough heat to brown the outside and bring out the savory flavor, the "appetite appeal" as you call it.

With tender roasts with a good covering of fat, I prefer to brown them first, very quickly. I put them into a hot oven, say 450° to 500° F. Then as soon as the meat is lightly browned, I reduce the oven temperature to moderate, about 300° to 350° F., and finish the cooking at this low heat. This moderate temperature keeps the juices in the meat, in other words prevents excessive shrinkage. It cooks the meat evenly. And the drippings in the pan are nicely browned, not burned, so they make good gravy. (over)

MISS VAN DEMAN: But doesn't that searing in the very hot oven make the meat shrink more than if you used a moderate oven all the way through? We once thought that searing the meat sealed in the juice. That is an exploded theory, I know. Lately, I've heard that searing has quite the opposite effect, that it makes meat lose weight. How about it?

MISS ALEXANDER: Yes, sometimes it does. But this loss is mostly fat from the outside of the roast. When I'm using an oven that can't be changed quickly from very hot to moderate, then I prefer a constant moderate temperature for the entire time the roast is cooking. If the meat is cooked well-done in this moderate oven, it will be brown by the time it is finished. If it is a beef roast cooked only to the rare stage, it will not always be brown enough to suit my taste. There's no doubt about it, searing at the first does put the bloom on roast meat. It also starts the fat trickling down and makes a roast self-basting from the first and keeps the lean from drying out.

MISS VAN DEMAN: Well, we used to think that a cover on the roasting pan kept meat from drying out. That's another of our old ideas we've thrown overboard since science took a hand in meat cookery.

MISS ALEXANDER: Yes. All the experiments show that a lid on the roaster tends to draw juice out of the meat rather than keep it in. This is rather surprising. Anybody might think that a lid which holds moisture in the pan would keep the juices in the meat. But what actually happens is that the steamy atmosphere causes the meat to give up its juice and with it a lot of flavor. Of course, you get back this flavor in the gravy, but this isn't what I call true roasting.

MISS VAN DEMAN: You believe then, don't you, in cooking all the tender cuts of meat in open pans with no water added?

MISS ALEXANDER: Yes, I do. An open roasting pan with a rack is best for tender roast of beef, lamb, and pork with a good covering of fat. The rack holds the meat off the hot pan so that the bottom doesn't overcook.

And for pan-broiling tender steaks and chops, I use a heavy skillet. And I never put a lid over them or add a drop of water.

MISS VAN DEMAN: Awhile back, you spoke about braising the less tender cuts of beef to soften the connective tissue. Just how do you braise meat?

MISS ALEXANDER: Well, to braise meat, first brown it quickly in a little fat. Here again we're browning for flavor. Then add a small quantity of water - a judicious quantity, Dr. Stanley calls it. In other words don't drown your meat in water, even if you do want a lot of gravy. You'll get richer, better-flavored browner gravy with a small quantity of water. Then cover the kettle, and cook slowly until the meat is tender. This is the principle you work on when you turn beef chuck or some other tough piece of meat into a good pot roast, or a Swiss steak, or any of the hundred and one savory stews.

MISS VAN DEMAN: Well, it's certainly much easier and a lot more interesting to cook meat or any food when you understand some of the science behind the different methods.

Thank you, Miss Alexander, for coming over today.

Next week, we'll continue with the principles of cooking fish, another important protein food.

Goodbye for this time.